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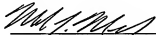
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Respectfully Submitted,



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(12) United States Patent
Hiroki**(10) Patent No.: US 7,535,448 B2**
(45) Date of Patent: May 19, 2009**(54) LIQUID CRYSTAL DISPLAY DEVICE, AND METHOD OF DRIVING THE SAME****(75) Inventor: Masaaki Hiroki, Kanagawa (JP)****(73) Assignee: Semiconductor Energy Laboratory Co., Ltd. (JP)****(*) Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 108 days.**(21) Appl. No.: 10/072,171****(22) Filed: Feb. 7, 2002****(65) Prior Publication Data**

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- (51) Int. Cl.**
G09G 3/36 (2006.01)
G09G 5/10 (2006.01)
- (52) U.S. Cl.** 345/89; 345/690
- (58) Field of Classification Search** 345/89, 345/690, 691, 94, 95, 100, 206, 99
See application file for complete search history.

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(74) Attorney, Agent, or Firm—Cook Alex Ltd.**(57) ABSTRACT**

In driving a liquid crystal display device, respective voltages of picture signals supplied in subframe periods are changed so as to enlarge a voltage difference between a gradation voltage of a picture signal supplied in the first subframe period and a gradation voltage of a picture signal supplied in the second subframe period.

22 Claims, 12 Drawing Sheets